MEMORANDUM CH2MHILL

Honeywell Celotex Main Site Cover Construction Work Plan Addendum – July 23, 2008 Update

TO: Jena Sleboda/USEPA

FROM: CH2M HILL

COPIES: Karen Peaceman/USEPA

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DATE: May 30, 2008 – July 23, 2008 Update

This memorandum is submitted as an addendum to the Revised Final Main Site Cover Construction Work Plan (CH2M HILL, 2007) to document the final design components and construction approach. Design drawings are provided as Attachment 1 along with the proposed construction schedule (Attachment 2) while specifications are available upon request. While the design and construction approach is unchanged from the Work Plan, refinements have been incorporated to support possible future use of the site as a park. This update also incorporates responses to comments provided by EPA dated June 18, 2008 consistent with the letter response submitted by CH2M HILL on July 14, 2008.

Honeywell is not involved with the design or construction of a possible future park, is not responsible for changes in connection therewith, and cannot and does not provide any representations or assurances concerning park design or construction. However, Honeywell has made an effort, where feasible and reasonable, to perform its obligations under the Settlement Agreement and Administrative Order on Consent in a manner that, based on discussions with the City of Chicago Park District, would be consistent with possible park construction plans to be implemented by the City of Chicago Park District if it acquires the Site.

The following key items are presented by subsection within this memorandum:

- Side Slopes
- Sacramento Parcel Cover
- Monarch Parcel Cover
- Fencing
- Stormwater Management
- Construction Approach

Note that while the following discussion incorporates options and alternatives to remain flexible during construction implementation, each alternative meets the requirement for a minimum 2-foot thick cover across the entire 22-acre site.

Side Slopes

The side slopes on both the Sacramento and Monarch parcels include the area between the property boundaries to the current or planned top of the cover at each parcel. The side slopes will first be cleared of trees and vegetation. Pending review to assess ability to work around and meet project objectives, a few large trees may be preserved and protected. Site preparation will include demolition of abandoned utility poles, weigh scale near the current Sacramento parcel entrance, concrete walls, existing fences, and removal of general debris. These materials will be managed offsite as construction debris.

Excavation will use a one foot offset from the property line to avoid disturbance of adjacent property. From the foot offset, existing soil will be excavated to create a shallow swale around the perimeter of the property to support infiltration of stormwater from side slope runoff. Soils excavated from the perimeter of the property will primarily be managed offsite as non-hazardous waste. A limited volume of soil removed from side slope areas will be used to level the Monarch parcel as discussed in the Monarch Cover subsection below. This approach is consistent with the April 2007 Work Plan and findings documented in the Main Site Pre-Design Data Evaluation Report (CH2M HILL, March 2008).

The side slopes will then be graded to allow for a 3:1 maximum slope to the top of the site. Originally, the side slope and swale area was planned to be covered with two feet of gravel to match the surface cover materials. However, the current plan is to use a vegetated soil cover in these areas. Two feet of clean material, in the form of 16 inches of clean fill (meeting IEPA Tier 1 residential criteria) covered by 8 inches of topsoil, will be placed on all side slopes. The side slopes will be hydroseeded for a fescue-type grass.

Due to the current elevation of the Sacramento parcel and presence of gravel or other cover materials partially in place already, there are no areas of the site that will remain uncovered during the transition between Phase 1 and Phase 2 construction activities. In addition, the construction schedule has been revised (refer to Attachment 2) further reducing any potential concerns regarding site configuration associated with sequencing of the work. All trucks utilized to haul material either at the site or offsite will be equipped with fully functioning tarp systems or equivalent. The tarp or similar means will be utilized as needed or in combination with other dust suppression methods to prevent windborne dust issues at the site either during transportation of materials as well as during placement, grading, and other handling activities.

During pre-design site work, a partially exposed pipe on the side slope along the western portion of the site was identified using methods to locate underground piping. The piping was traced and determined to often be within the area to be disturbed by the planned side slope construction. As part of the pipe identification process, occasionally soil was removed where the pipe was buried to verify depth and pipe connectivity. At these soil removal locations, potentially impacted soil directly below the pipe alignment was observed. Consequently, the final design plans documented by this work plan addendum incorporates removal of the piping where it will be uncovered as part of the side slope construction as well as to remove potentially impacted soil directly below the pipe where it is necessary to achieve the two feet minimum clean cover for the site. The excavated impacted material will be managed via off-site disposal as non-hazardous waste.

Sacramento Parcel Cover

The Sacramento parcel cover material has been designed for a base bid and two alternate bid options. The first assumes the Sacramento parcel end-use remains industrial/commercial similar to what is currently present while the second assumes the land will be redeveloped as a park.

The cover materials in the base bid are ungraded gravel and in the alternate bid are 8 inches of top soil with the remainder of the cover material composed of clean earth fill. As a third option, portions of the park cover can be replaced with CA-1 stone where soccer fields are planned. The CA-1 material would act as an underdrain layer and reduce stormwater peak flows and ponding depths from the site. CA-7 material is also free of fines like CA-1, but it has a smaller sized aggregate. CA-7 is being evaluated as a potential to replace CA-1, which is a more typical high void ratio aggregate useful for storing stormwater below the ground surface.

The entire parcel will be covered with at least 24" of clean material and some areas will have an overall cap thickness greater than 2 feet in order to maintain the existing site drainage. Materials used for the cover may include others appropriate to facilitate a park land use (athletic field artificial turf base material for example).

The Sacramento parcel cover grading does not reflect grading that would likely occur if a park is built. For example, as shown on the drawings, soccer fields would require additional grading changes to drain the athletic field. Additional grading changes will likely occur if the City of Chicago Parks Department is successful in purchasing the site. Any park grading would have to maintain the 24 inch minimum cover requirement.

Monarch Parcel Cover

Demolition of two buildings and foundations, excavation of visibly-impacted soil and concrete pit, and removal of a truck scale at the Monarch parcel have been conducted in advance of cover construction. The details of this planned work were outlined in letter work plans submitted to and approved by USEPA (CH2M HILL, November 2007 and March 2008). Completed work will be further documented under separate submittal.

The 2007 Work Plan indicated two feet of granular material would be placed over the 2-acre Monarch parcel to meet the cover requirement. The base bid is consistent with possible future use of the Monarch parcel as a parking lot. The base bid has the Monarch parcel covered with 24" of CA-1 (large open graded gravel) to serve as the base for future porous pavement. The CA-1 material would provide significant stormwater storage for a future porous pavement parking lot. An underdrain system of perforated plastic piping connected to the catch basin on the Monarch parcel has been added to drain the CA-1 material as part of this base bid. An alternative bid item for the Monarch cover is 9 inches of CA-6 (gravel) base material on top of 15 inches of clean earth fill to serve as a base for future asphalt surface placement. A second alternative bid is to have 8 inches of top soil over 16 inches of clean earth fill. The underdrain system is not required as part of the other proposed alternatives. Therefore, the underdrain system has a single proposed design for a single alternative (CA-1 material).

Additional material is needed to support the current grading plan on the Monarch parcel, this additional volume of material is assumed to be obtained from side slope work. Overall soil mass balance calculations will be performed as design decisions are confirmed. If a shortage of side slope material is available, then additional clean earth fill may need to be imported. Fill materials will be procured from offsite for use during the planned cover construction work. Imported materials will be certified clean and/or sampled and analyzed to confirm IEPA criteria are met as outlined in Section 3.1.3 of the April 2007 Work Plan and reiterated on Page 2 of the May 2008 Addendum. This documentation will be available for review upon request.

The proposed slope between the Monarch and Sacramento parcels has not changed at this time. In the event that a a milder slope was desired if a park is to be constructed, a minor design change to incorporate a milder side slope between parcels would still meet the minimum 2 feet of clean cover material. The grade on Sacramento parcel would not be lowered to meet this milder grade and only fill would be brought onto the Monarch parcel so that the ponding at the southern Sacramento catch basin would not spill over onto Monarch.

Fencing

Temporary fencing will be placed off-site in order for work to be accomplished. This will require agreements with the City of Chicago for placing temporary fencing materials in the right of way as well as with private property owners along the northwest side of the Sacramento parcel.

Due to the condition of the current fence and the need to remove the fencing in order to remove the vegetation on the side slopes and remove soil, the existing fence is planned for replacement.

Permanent fencing will be in the form of a 6 foot high chain link fence. The fence will be installed within the first foot of the property line surrounding the Monarch and Sacramento parcels. As an option, a fence may also be installed along the current property boundary between the Monarch and Sacramento parcels. Three gates for site access are planned for installation with two 30-foot opening gates on Monarch and one 60-foot opening gate on the Sacramento parcel. These access points are subject to change.

Stormwater Management

Drainage for the project is broken into four distinct areas: side slopes, Monarch parcel (~1.6 acres), Sacramento parcel subarea 1 (southern ~13 acres), and Sacramento parcel subarea 2 (northern ~3 acres). The side slopes, in accordance with the original plan, will drain directly to a small swale, which is designed to hold the 100-year storm and then evaporate or infiltrate. The April 2007 Work Plan assumed that the current stormwater management approach, consisting of ponding at the surface of the Main Site with stormwater discharge through the existing stormwater inlets and piping, would remain intact. However, new City of Chicago stormwater regulations for rate and volume control of stormwater have altered this approach.

The current cover grading plan supports future drainage that will mimic the existing major drainage patterns, but new catch basins and stormwater piping are installed due to the

physical condition of the existing drainage system. Based upon a dye test conducted in May 2008, the existing piping at the Monarch parcel was verified to drain to the combined sewer system instead of into the combined sewer outfall as sewer drawings indicated. The combined sewer flows into the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) collateral channel located on the south side of 31st Street. The available information for the southern Sacramento inlet also shows that it follows the same drainage path as the Monarch piping. The catch basin in Sacramento subarea 2 drains east to the Whipple Street sewer which is part of the City's combined sewer system that ultimately flows to a wastewater treatment facility.

The project stormwater design is proposing to eliminate all flow to the City's combined sewer system by connecting directly to the collateral channel outfall pipe. Sacramento subarea 2 could either become a natural area with no outlet (infiltration only) or directed to the collateral channel. It is currently designed to have the smallest allowable outflow rate according to the City of Chicago standards. Sacramento subarea 1 and the Monarch parcel stormwater will drain to the existing City of Chicago combined sewer overflow (CSO) pipe that discharges to the collateral channel on the south side of 31st Street. This channel is the site of a proposed wetland area being designed by The Wetlands Initiative (TWI) under direction of MWRDGC and the City of Chicago for construction in 2008. The project team has been working with TWI and MWRDGC to obtain agreement on the proposed stormwater management plans.

The project team has been in contact with the City of Chicago Department of Water Management and Department of Buildings, as well as MWRDGC regarding stormwater permitting requirements. Because stormwater from the project site will be directed to a Cityowned CSO bypass pipe, City requirements apply. The City stormwater regulations place a limit of 1 cfs/acre for discharges directly to "waters". This guideline would result in a maximum permissible flow of 21.31 cfs. However, because the site stormwater flows to a City-owned pipe, flow from the site must not increase beyond existing conditions. MWRDGC has been contacted to convey project information and to receive authorization for stormwater release from the project site to the Collateral Channel, however, authorization is generally automatically granted in cases where stormwater is discharged to a City-owned structure which then discharges to a facility under MWRDGC jurisdiction, as long as the discharge meets City requirements.

Existing Conditions

The Sacramento and Monarch parcels are both covered in compacted gravel. The modified rational method was used to calculate the existing maximum stormwater flows. The 100 year storm (as described in the Illinois State Water Survey Bulletin 71) was used to calculate stormwater flows.

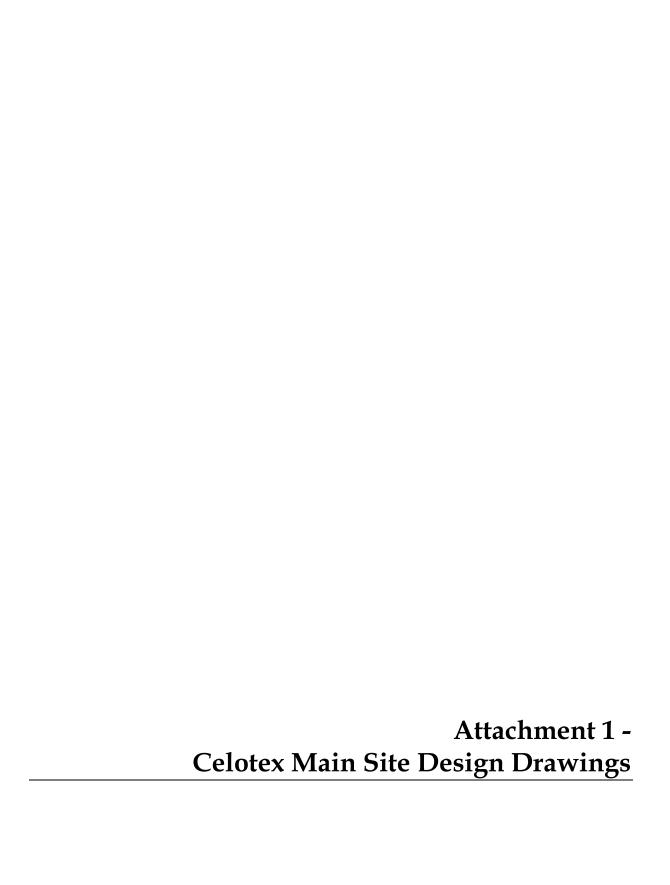
About half of the existing maximum flow comes from the southern catch basin (subarea 1) on the Sacramento parcel. Ponding currently occurs on the Sacramento parcel following rainfall events. The other half of the flow leaving the project site comes from the Monarch catch basin. Ponding does not currently appear to occur on the Monarch parcel.

Restrictors

In order to ensure that future flows to the CSO bypass pipe do not exceed existing flows, restrictors will be placed in each of the three catch basins. Flow restrictors in the Monarch catch basin and the southern Sacramento catch basin (subarea 1) will maintain flows within current runoff rates. The restrictor in the northern Sacramento catch basin (subarea 2) will be a 2.5" orifice plate which will pass a maximum flow of approximately 0.5 cfs. Total maximum flow from all three catch basins will be less than 10 cfs, meeting the City's requirement to ensure flow does not increase beyond existing conditions. The restrictors will not significantly change stormwater flows from the catch basins on the Sacramento parcel, because the existing pipes are already restrictive, resulting in ponding. However, the Monarch catch basin currently has a 24" pipe which is not restricting flow. The restrictor in the Monarch catch basin will result in ponding for large storms, which currently does not occur. The proposed restrictors will result in ponding for the existing compacted gravel site. However, ponding will be greatly reduced or eliminated if the site cover becomes grass, especially if the site becomes a park with a natural passive area and soccer fields that provide stormwater storage.

Construction Approach

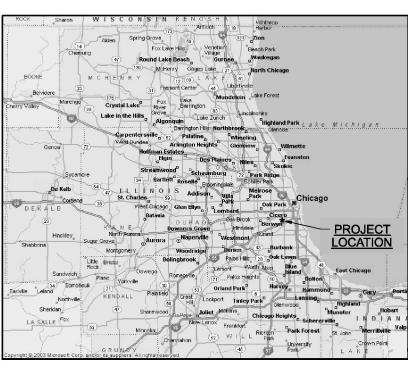
The project is planned for execution under two separate phases; however, implementation scheduling and phasing will depend on site ownership, access negotiations, coordination with the City, MWRDGC, TWI, and other factors. Assuming a phased approach, it has been assumed that Phase 1 will include construction of the side slope and swale area, Monarch cover, final site fence, and the portion of the stormsewer system on the Monarch parcel and the first catch basin on the Sacramento parcel. Phase 2 would then include the Sacramento cover and remaining storm sewer elements. The proposed construction schedule is attached.



HONEYWELL CELOTEX MAIN SITE COVER CONSTRUCTION CHICAGO, ILLINOIS DRAFT FINAL DESIGN (MAY 30, 2008)

INDEX OF DRAWINGS

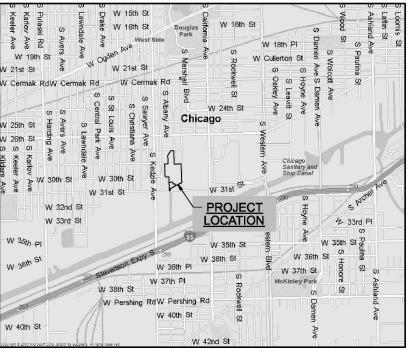
DRAWING	TITLE
NO.	
G-1	TITLE SHEET, INDEX OF DRAWINGS AND AREA/VICINITY/LOCATION MAPS
G-2	CIVIL AND DESIGNATION LEGENDS, ABBREVIATIONS AND GENERAL NOTES
C-1	DEMOLITION PLAN - NORTH
C-2	DEMOLITION PLAN - SOUTH
C-3	PHASING AND GRADING PLAN - NORTH
C-4	PHASING AND GRADING PLAN - SOUTH
C-5	SEDIMENTATION AND EROSION CONTROL PLAN - NORTH
C-6	SEDIMENTATION AND EROSION CONTROL PLAN - SOUTH
C-7	SITE PLAN - NORTH
C-8	SITE PLAN - SOUTH
C-9	STORM SEWER PROFILES
C-10	TYPICAL SECTIONS
C-11	DETAILS
C-12	DETAILS
C-13	DETAIL
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AREA MAP



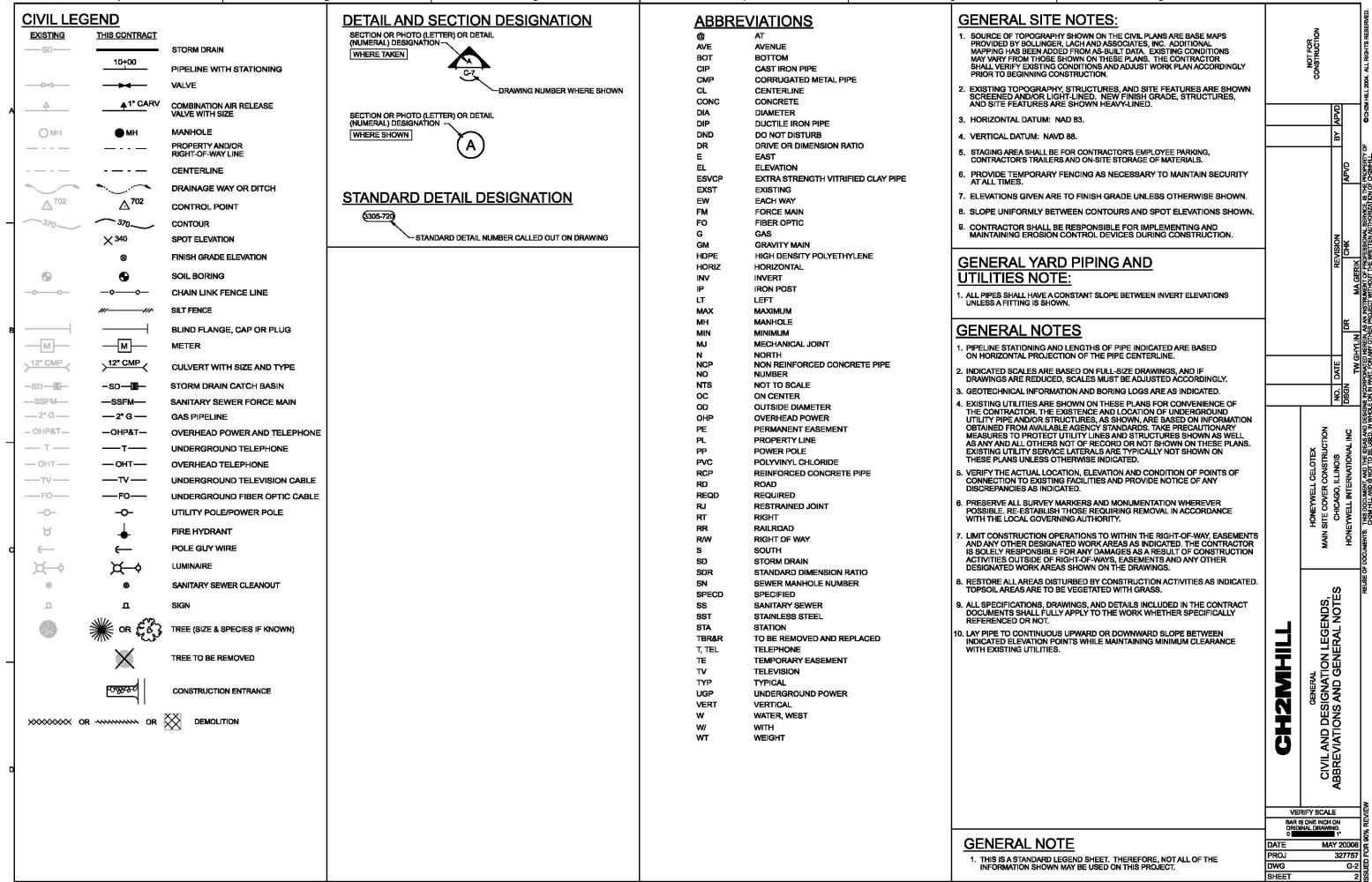


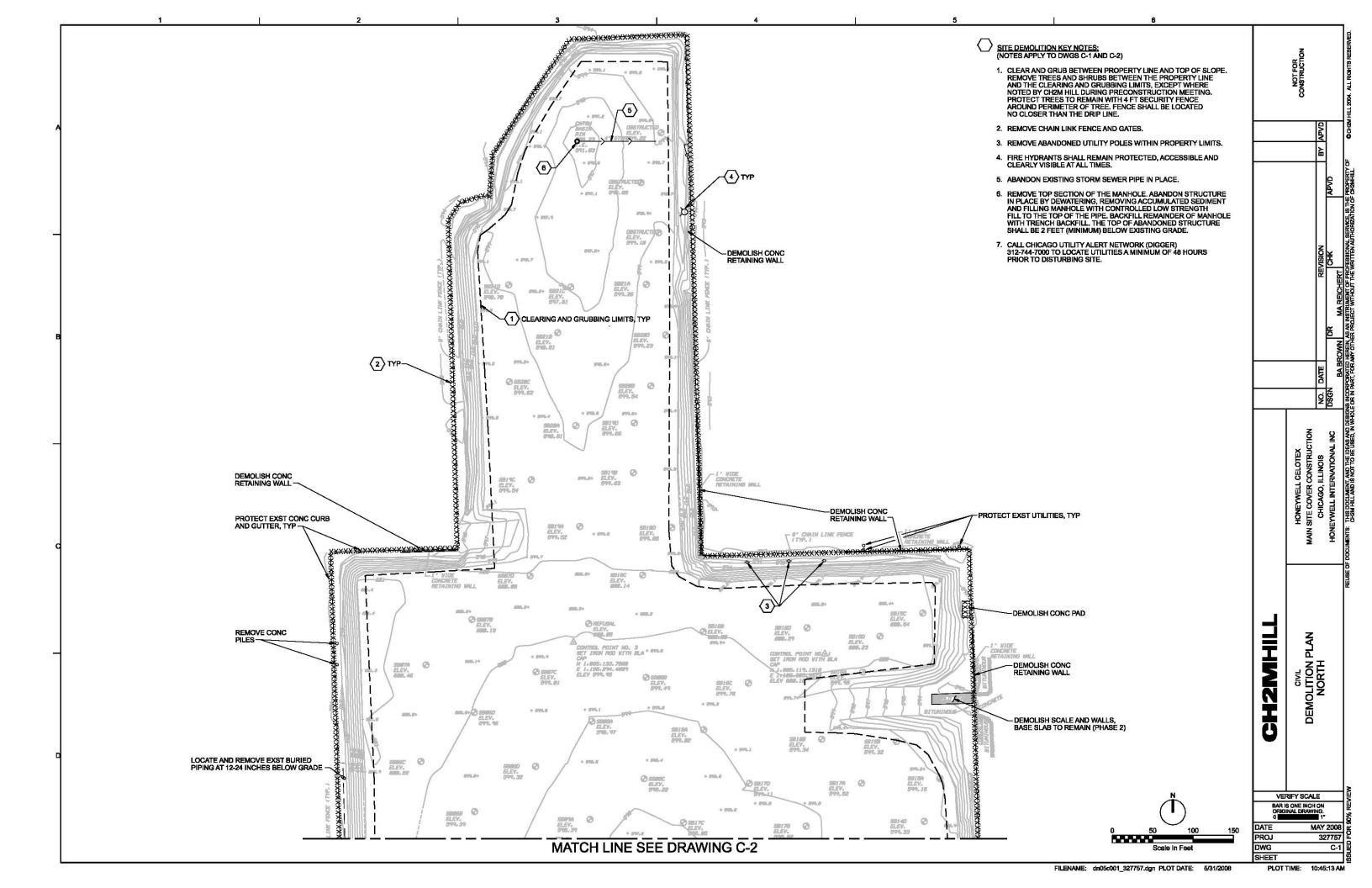


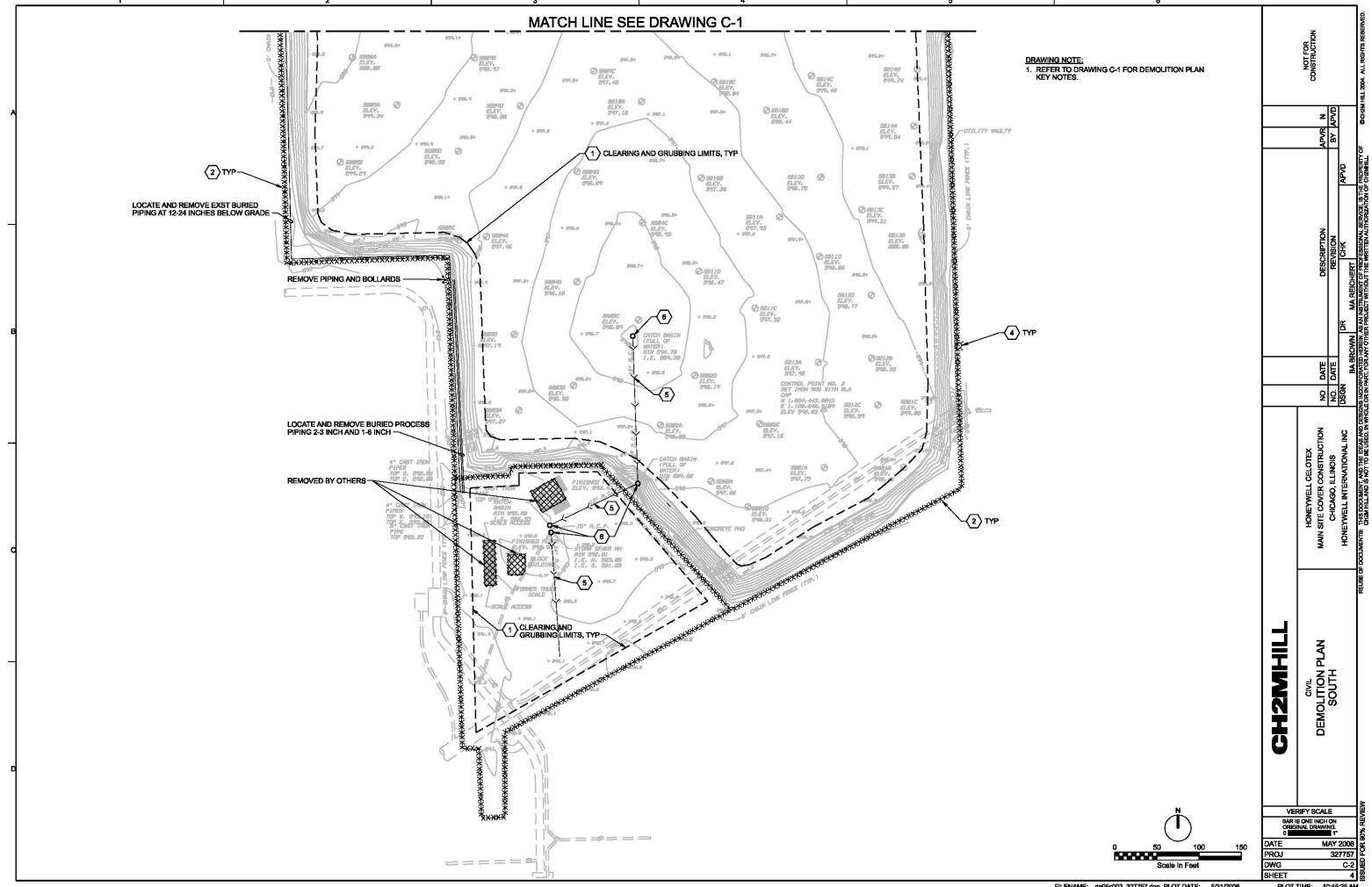


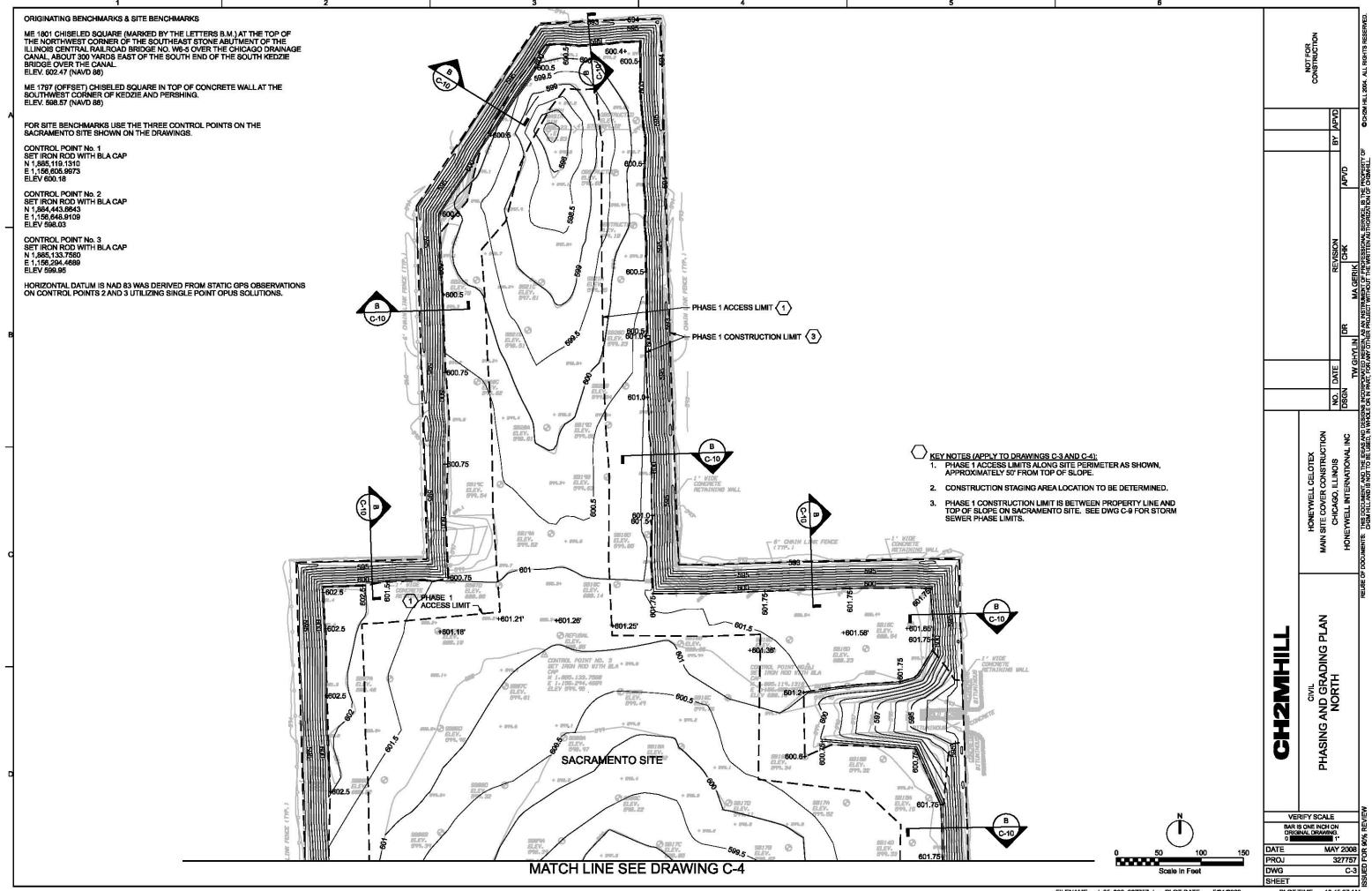


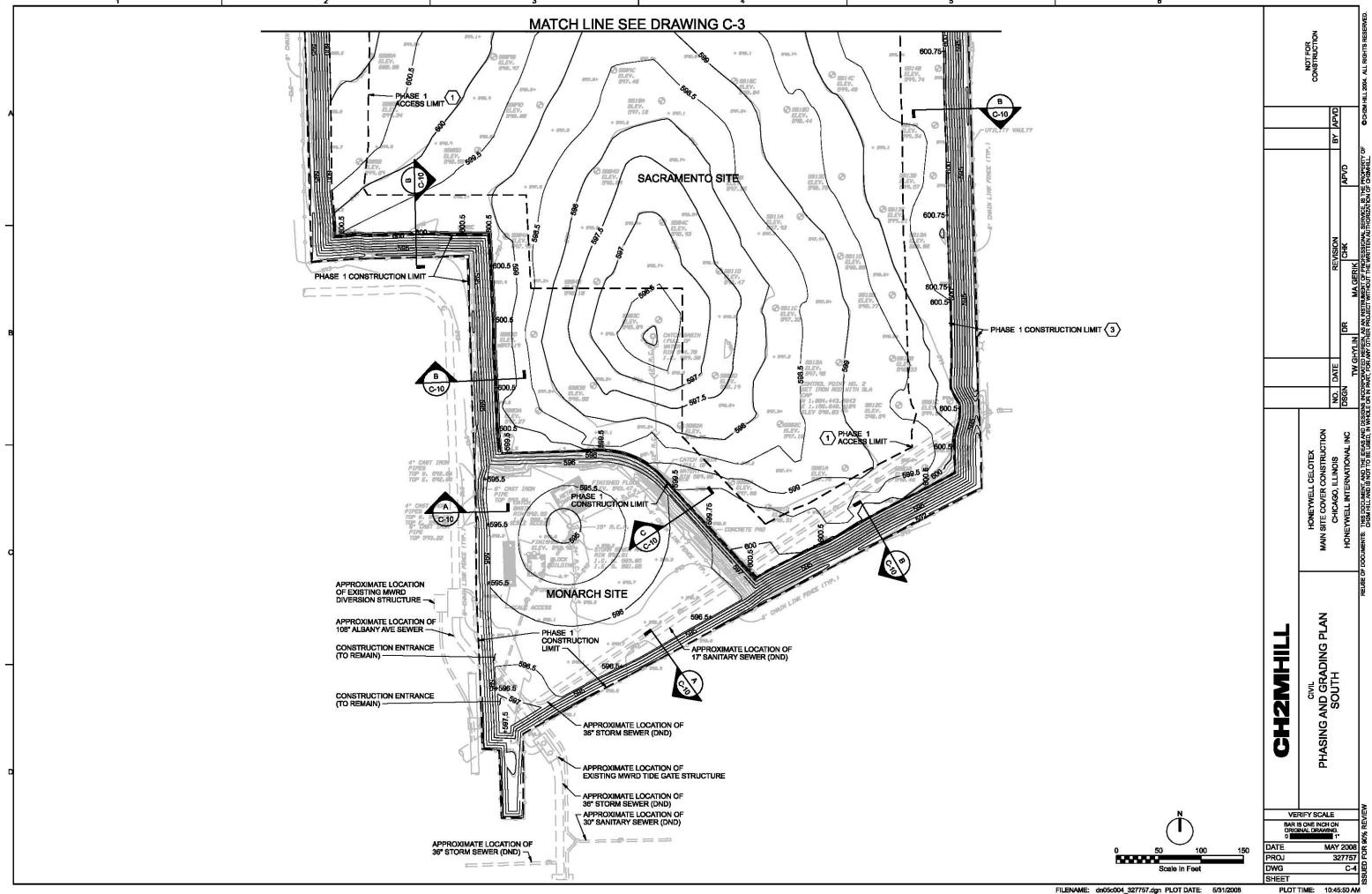
LOCATION MAP

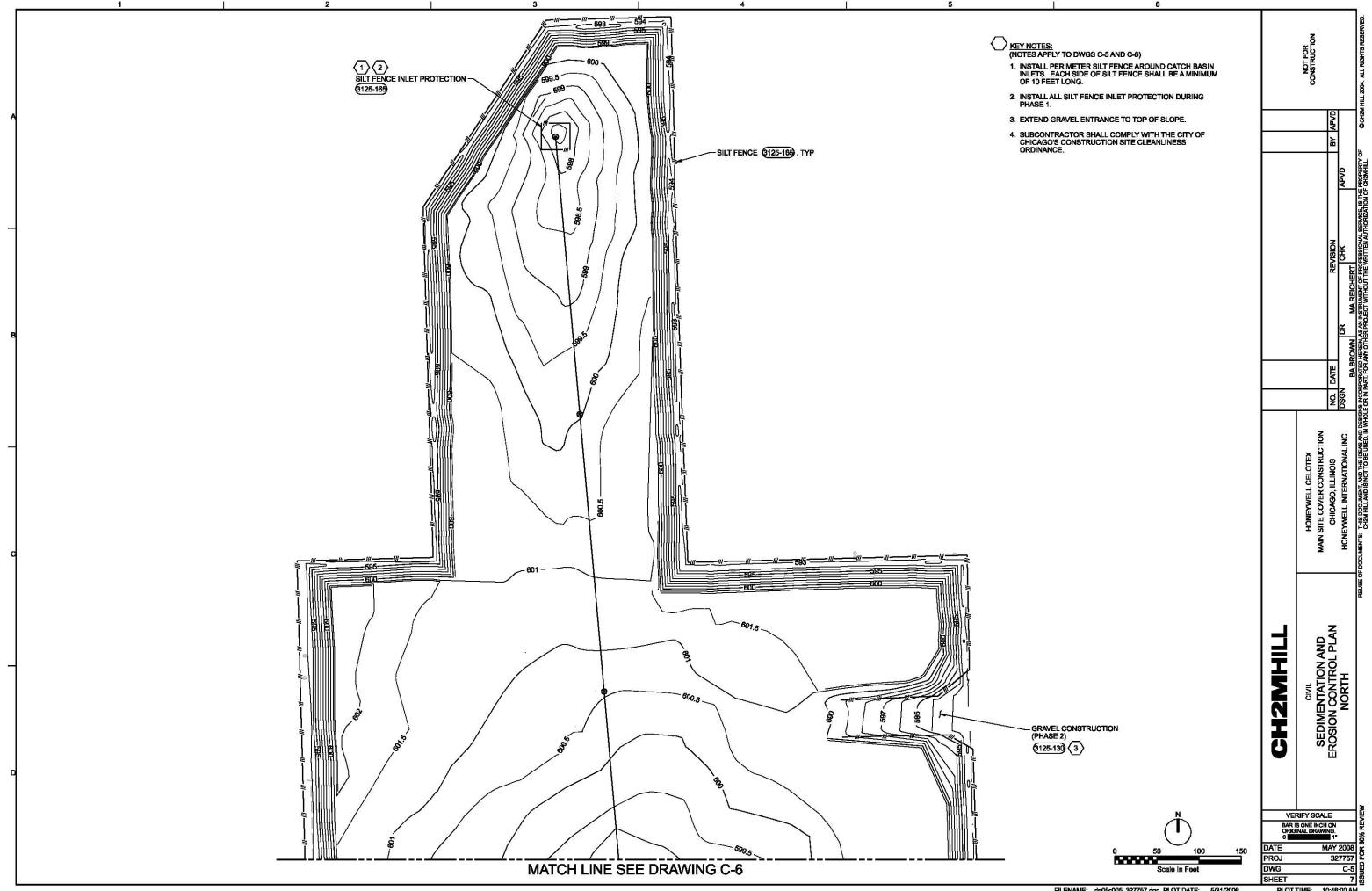


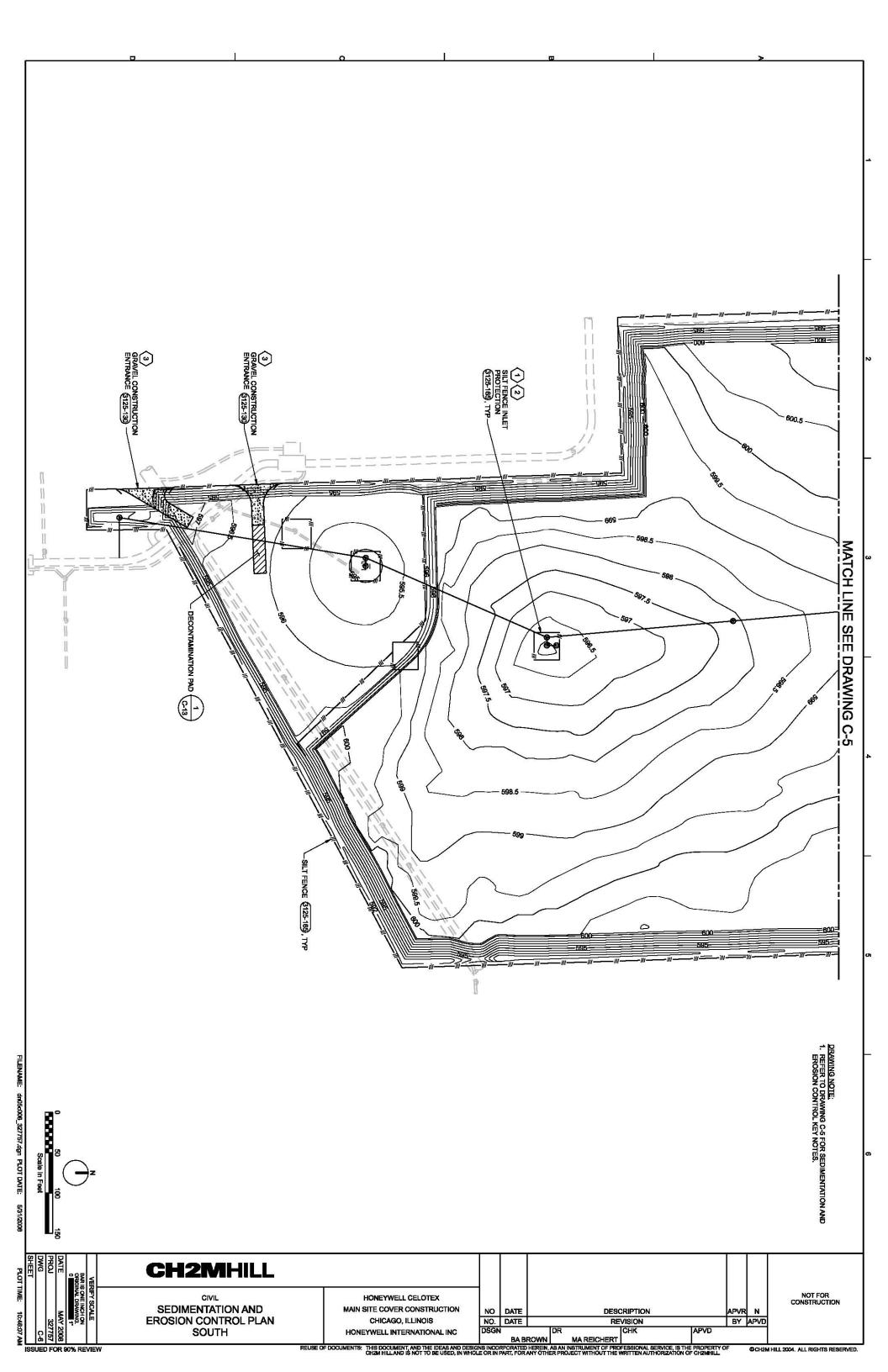


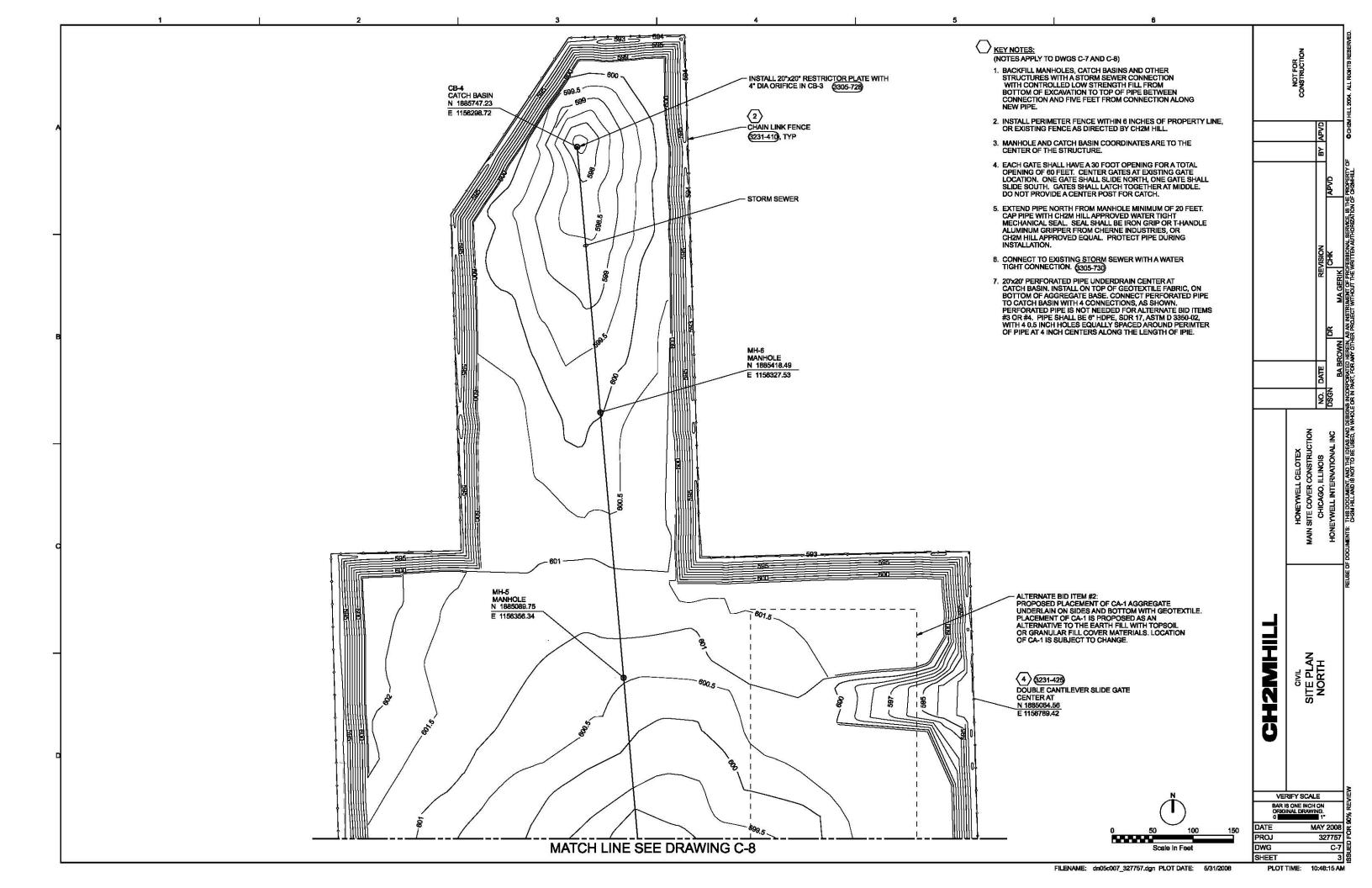


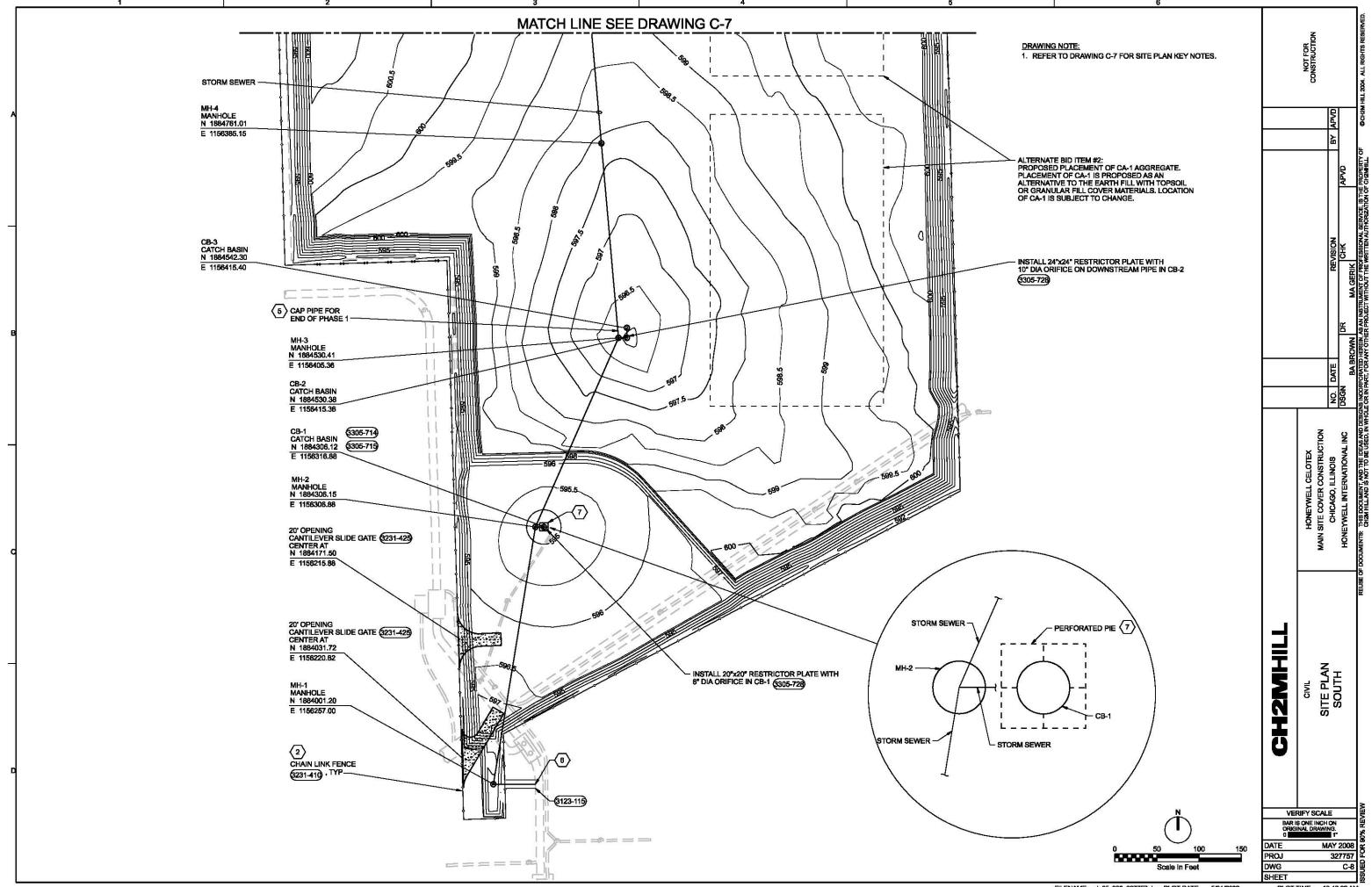


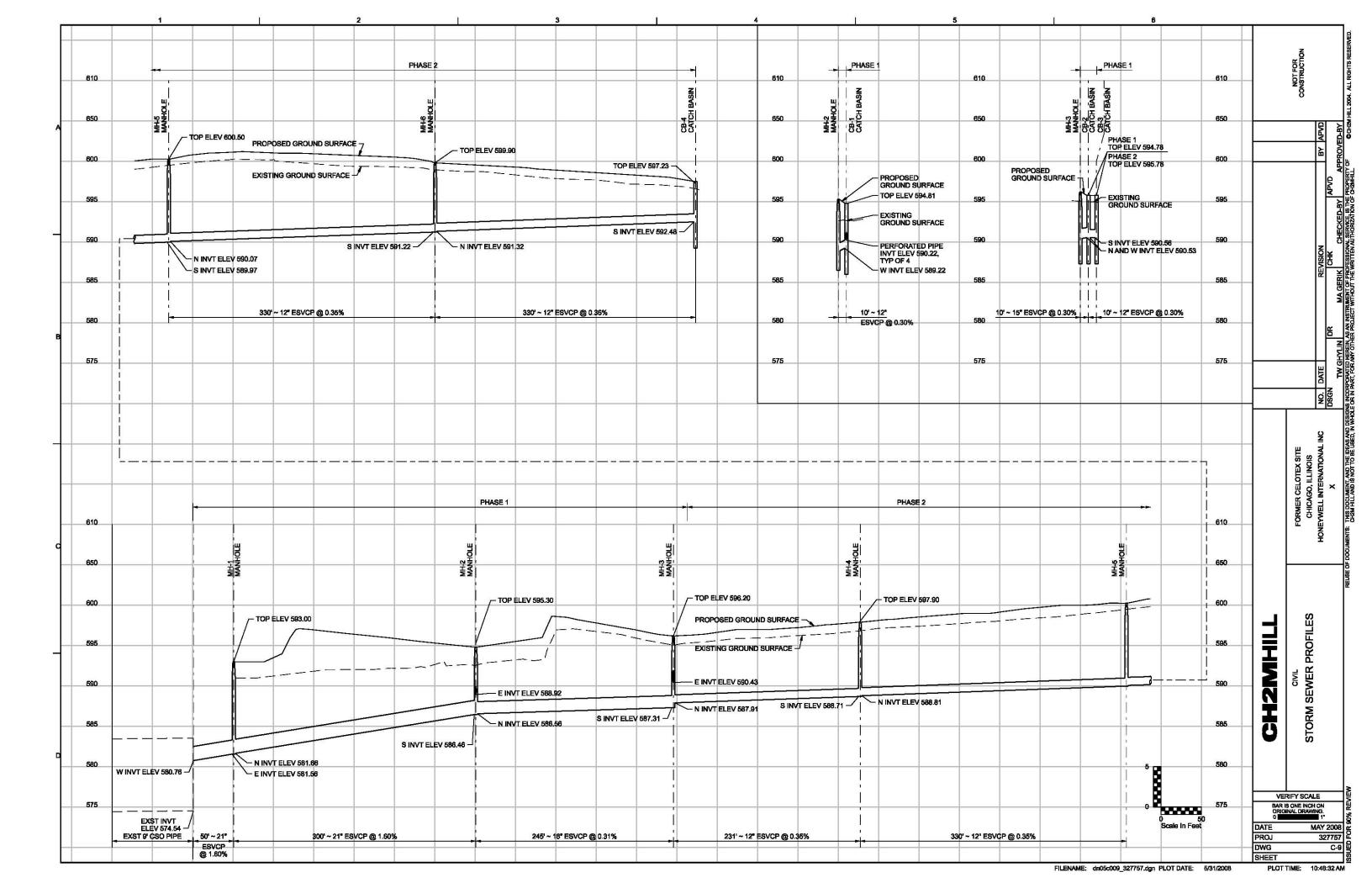


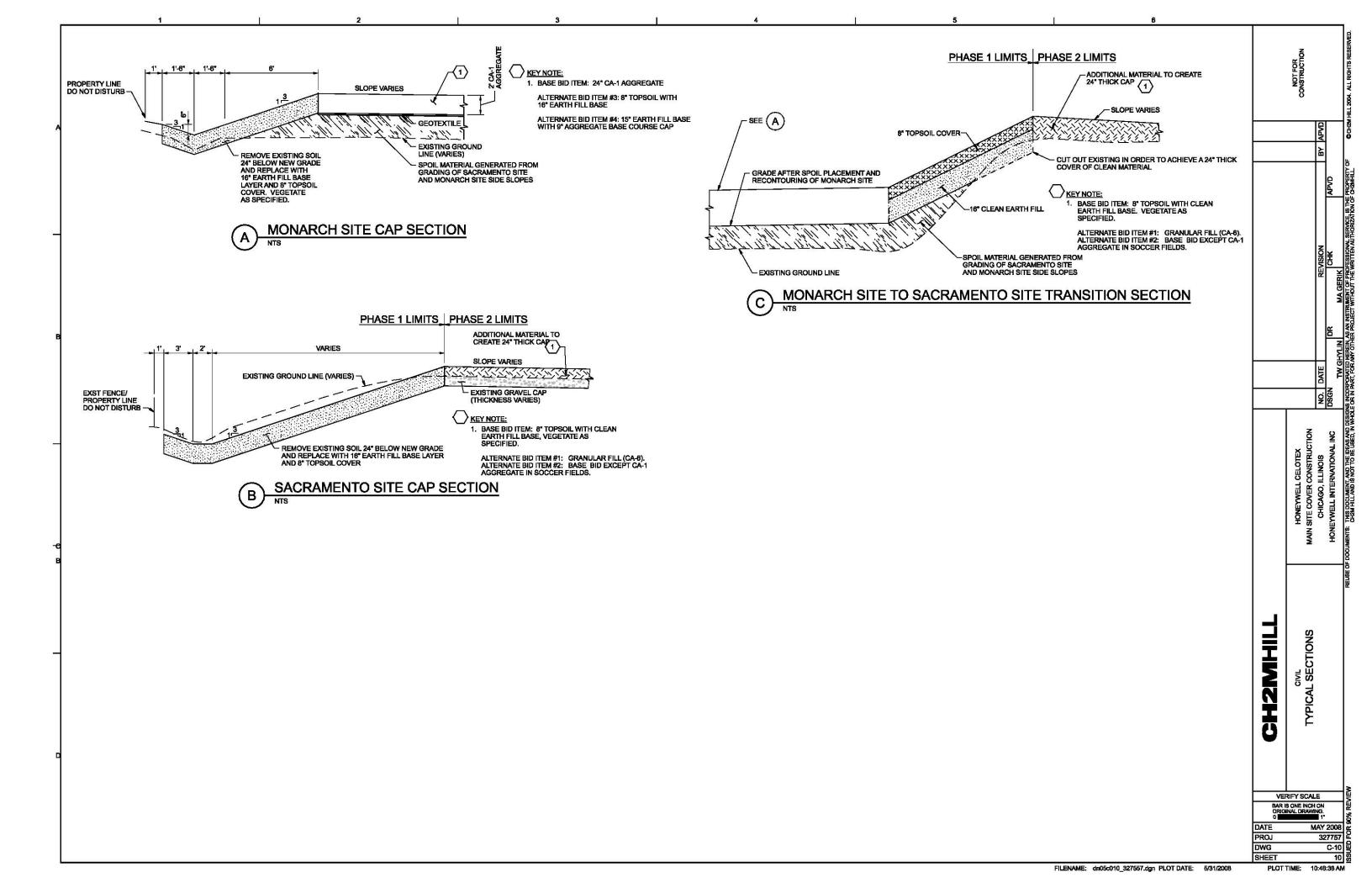


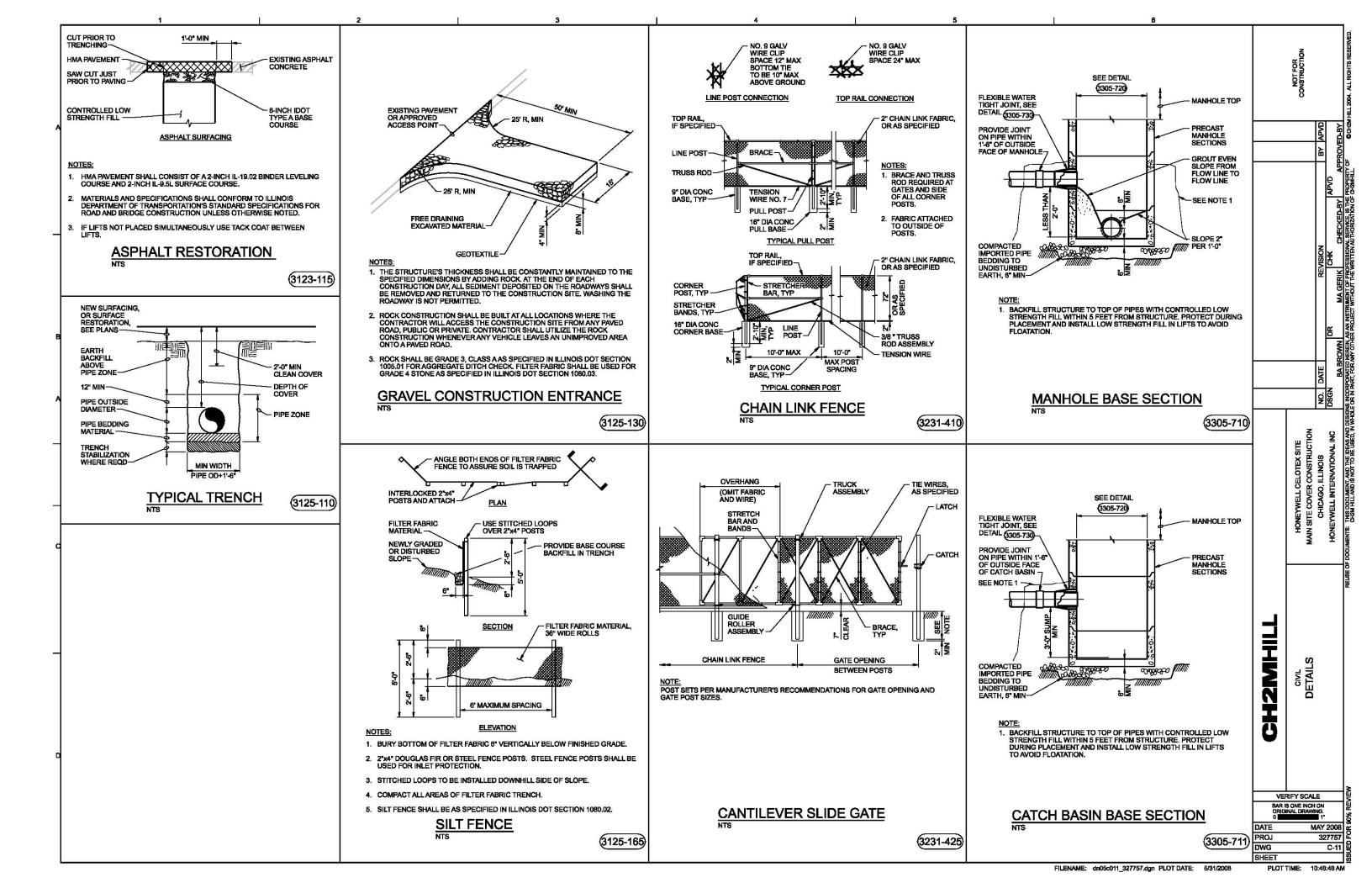


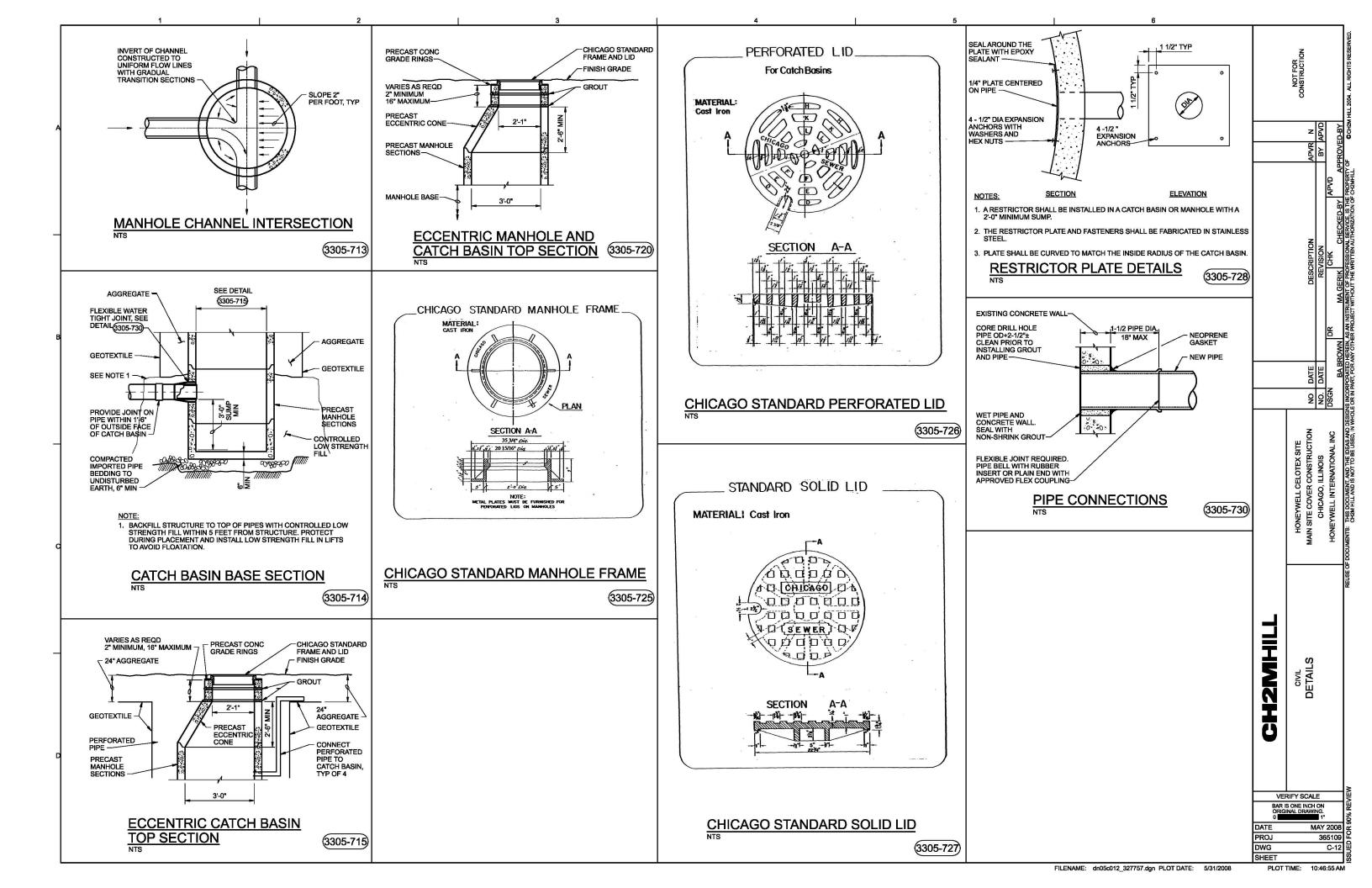












STACKABLE CONCRETE BLOCK, MIN 3' HIGH (TYP) TRUCK LOADING AREA (ON EXISTING ASPHALT SURFACE) 12" ASPHALT BERM ADJACENT TO CONCRETE BLOCK (TYP) ELEVATION = EXISTING GRADE + 0.5' NEW ASPHALT LAYER, MIN 3" THICK ELEVATION = EXISTING GRADE + 0.25 - EXISTING GRADE WITH ASPHALT SÛRFACE TRUCK DECON AREA VALLEY SLOPE TO MEET EXISTING ASPHALT SURFACE STACKABLE CONCRETE BLOCKS (TYP) -RIDGE 1% TRUCK DECON AREA STACKABLE CONCRETE BLOCK, MIN 3' HIGH (TYP) 12" ASPHALT BERM ADJACENT TO CONCRETE BLOCK (TYP) VALLEY ELEVATION = EXISTING GRADE + 1.3' ELEVATION = EXISTING GRADE + 1.05 NEW ASPHALT LAYER, MIN 3" THICK ASPHALT SURFACE EXISTING GRADE WITH ASPHALT SURFACE B TRUCK DECON AREA RIDGE RIDGE SLOPE TO MEET EXISTING ASPHALT SURFACE NOTES: TRUCK DECON AREA TO BE CONSTRUCTED BY SOILS SUBCONTRACTOR. DEMOLITION SUBCONTRACTOR HAS USE OF TRUCK LOADING / DECON AREA DURING TRUCK LOADING/DECON AREA PLAN ITS WORK. NEW ASPHALT LAYER IS MINIMUM 3" THICK. MATERIAL BETWEEN NEW ASPHALT LAYER AND EXISTING ASPHALT 2. SURFACE CAN BE APPROPRIATELY GRADED AND COMPACTED AGGREGATE. DECONTAMINTATION ANREA

Attachment 2 - Celotex Main Site Proposed Construction Schedule - Revised July 14, 2008

Proposed Main Site Schedule - Revised July 14, 2008 Main Site Cover Construction Implementation

Former Celotex Site - Chicago, Illinois

